Name_____ Unit 3 Worksheet 10 Proving Lines Parallel

#1-4 Determine whether the lines are parallel, perpendicular, or neither.

1) $y = 3x + 5$
$y = -3x - 8$

2) $y = \frac{1}{2}x + 1$
$y = -2x + 8$

3) $y = -8x + 11$
$y = -8x - 2$

4) $x + y = 12$
$y = x + 8$

5) $3x + y = 11$
$y = -3x - 5$

6) $4x + 2y = 8$
$y = -2x - 2$

#7-10 Determine whether the lines through the given sets of points are parallel, perpendicular, or neither

7) $(2,-3)(-3,7)$ *and* $(1, 1)(7, 4)$

8) $(-1,-3)(-8,-9)$ *and* $(6,-4)(1,-2)$

9) $(2,4)(4,8)$ *and* $(1,0)(3,4)$

10) $(0,-5)(3,4)$ *and* $(2,4)(1,-2)$

11) Explain what it means to have two lines that are neither parallel or perpendicular. (hint: draw a picture to help you out) 3-4 sentences.

12) Mike has $228 in his bank account and is saving $35 per week, modeled by the equation $y = 35x + 228$. Joe is saving $35 per week and has $483 in his bank account, modeled by the equation $y = 35x + 483$. Will Mike ever have more money in his bank account than Joe, providing they never take money out? Explain your answer using mathematical reasoning.

13) Given that $a \parallel b, \angle 1 \cong \angle 2$, Explain in complete sentences why $c \parallel d$.